

IndexingAndSelectingDataWithPandas

September 8, 2025

```
[1]: import pandas as pd
```

```
[4]: data = pd.read_csv("Downloads/nba.csv", index_col='Name')
```

```
[5]: print("Dataset")
```

Dataset

```
[6]: display(data.head(5))
```

Name	Team	Number	Position	Age	Height	Weight	\
Avery Bradley	Boston Celtics	0.0	PG	25.0	6-2	180.0	
Jae Crowder	Boston Celtics	99.0	SF	25.0	6-6	235.0	
John Holland	Boston Celtics	30.0	SG	27.0	6-5	205.0	
R.J. Hunter	Boston Celtics	28.0	SG	22.0	6-5	185.0	
Jonas Jerebko	Boston Celtics	8.0	PF	29.0	6-10	231.0	

Name	College	Salary
Avery Bradley	Texas	7730337.0
Jae Crowder	Marquette	6796117.0
John Holland	Boston University	NaN
R.J. Hunter	Georgia State	1148640.0
Jonas Jerebko	NaN	5000000.0

```
[7]: first = data["Age"]
```

```
[8]: print("\nSingle Column selected from Dataset")
```

Single Column selected from Dataset

```
[9]: display(first.head(5))
```

Name	
Avery Bradley	25.0
Jae Crowder	25.0
John Holland	27.0
R.J. Hunter	22.0

Jonas Jerebko 29.0
Name: Age, dtype: float64

```
[10]: data = pd.read_csv("Downloads/nba.csv", index_col="Name")
print("Dataset")
display(data.head(5))

first = data["Age"]
print("\nSingle Column selected from Dataset")
display(first.head(5))
```

Dataset

Name	Team	Number	Position	Age	Height	Weight	\
Avery Bradley	Boston Celtics	0.0	PG	25.0	6-2	180.0	
Jae Crowder	Boston Celtics	99.0	SF	25.0	6-6	235.0	
John Holland	Boston Celtics	30.0	SG	27.0	6-5	205.0	
R.J. Hunter	Boston Celtics	28.0	SG	22.0	6-5	185.0	
Jonas Jerebko	Boston Celtics	8.0	PF	29.0	6-10	231.0	

Name	College	Salary
Avery Bradley	Texas	7730337.0
Jae Crowder	Marquette	6796117.0
John Holland	Boston University	NaN
R.J. Hunter	Georgia State	1148640.0
Jonas Jerebko	NaN	5000000.0

Single Column selected from Dataset

Name	Age
Avery Bradley	25.0
Jae Crowder	25.0
John Holland	27.0
R.J. Hunter	22.0
Jonas Jerebko	29.0

Name: Age, dtype: float64

```
[11]: first = data[["Age", "College", "Salary"]]
print("\nMultiple Columns Selected from Dataset")
display(first.head(5))
```

Multiple Columns Selected from Dataset

Name	Age	College	Salary
Avery Bradley	25.0	Texas	7730337.0
Jae Crowder	25.0	Marquette	6796117.0

John Holland	27.0	Boston University	NaN
R.J. Hunter	22.0	Georgia State	1148640.0
Jonas Jerebko	29.0		NaN 5000000.0

```
[12]: row = data.loc["Avery Bradley"]
      print(row)
```

Team	Boston Celtics
Number	0.0
Position	PG
Age	25.0
Height	6-2
Weight	180.0
College	Texas
Salary	7730337.0

Name: Avery Bradley, dtype: object

```
[13]: rows = data.loc[["Avery Bradley", "R.J. Hunter"]]
      print(rows)
```

	Team	Number	Position	Age	Height	Weight	\
Name							
Avery Bradley	Boston Celtics	0.0	PG	25.0	6-2	180.0	
R.J. Hunter	Boston Celtics	28.0	SG	22.0	6-5	185.0	

	College	Salary
Name		
Avery Bradley	Texas	7730337.0
R.J. Hunter	Georgia State	1148640.0

```
[14]: selection = data.loc[["Avery Bradley", "R.J. Hunter"], ["Team", "Number", "Position"]]
      print(selection)
```

	Team	Number	Position
Name			
Avery Bradley	Boston Celtics	0.0	PG
R.J. Hunter	Boston Celtics	28.0	SG

```
[15]: all_rows_specific_columns = data.loc[:, ["Team", "Position", "Salary"]]
      print(all_rows_specific_columns)
```

	Team	Position	Salary
Name			
Avery Bradley	Boston Celtics	PG	7730337.0
Jae Crowder	Boston Celtics	SF	6796117.0
John Holland	Boston Celtics	SG	NaN
R.J. Hunter	Boston Celtics	SG	1148640.0
Jonas Jerebko	Boston Celtics	PF	5000000.0
...

Shelvin Mack	Utah Jazz	PG	2433333.0
Raul Neto	Utah Jazz	PG	900000.0
Tibor Pleiss	Utah Jazz	C	2900000.0
Jeff Withey	Utah Jazz	C	947276.0
NaN	NaN	NaN	NaN

[458 rows x 3 columns]

```
[16]: row = data.iloc[3]
      print(row)
```

Team	Boston Celtics
Number	28.0
Position	SG
Age	22.0
Height	6-5
Weight	185.0
College	Georgia State
Salary	1148640.0

Name: R.J. Hunter, dtype: object

```
[17]: rows = data.iloc[[3, 5, 7]]
      print(rows)
```

	Team	Number	Position	Age	Height	Weight	\
Name							
R.J. Hunter	Boston Celtics	28.0	SG	22.0	6-5	185.0	
Amir Johnson	Boston Celtics	90.0	PF	29.0	6-9	240.0	
Kelly Olynyk	Boston Celtics	41.0	C	25.0	7-0	238.0	

	College	Salary
Name		
R.J. Hunter	Georgia State	1148640.0
Amir Johnson	NaN	12000000.0
Kelly Olynyk	Gonzaga	2165160.0

```
[18]: selection = data.iloc[[3, 4], [1, 2]]
      print(selection)
```

	Number	Position
Name		
R.J. Hunter	28.0	SG
Jonas Jerebko	8.0	PF

```
[19]: selection = data.iloc[:, [1, 2]]
      print(selection)
```

	Number	Position
Name		
Avery Bradley	0.0	PG

Jae Crowder	99.0	SF
John Holland	30.0	SG
R.J. Hunter	28.0	SG
Jonas Jerebko	8.0	PF
...
Shelvin Mack	8.0	PG
Raul Neto	25.0	PG
Tibor Pleiss	21.0	C
Jeff Withey	24.0	C
NaN	NaN	NaN

[458 rows x 2 columns]

```
[20]: print(data.head(5))
```

	Team	Number	Position	Age	Height	Weight	\
Name							
Avery Bradley	Boston Celtics	0.0	PG	25.0	6-2	180.0	
Jae Crowder	Boston Celtics	99.0	SF	25.0	6-6	235.0	
John Holland	Boston Celtics	30.0	SG	27.0	6-5	205.0	
R.J. Hunter	Boston Celtics	28.0	SG	22.0	6-5	185.0	
Jonas Jerebko	Boston Celtics	8.0	PF	29.0	6-10	231.0	

	College	Salary
Name		
Avery Bradley	Texas	7730337.0
Jae Crowder	Marquette	6796117.0
John Holland	Boston University	NaN
R.J. Hunter	Georgia State	1148640.0
Jonas Jerebko	NaN	5000000.0

```
[21]: print(data.tail(5))
```

	Team	Number	Position	Age	Height	Weight	College	\
Name								
Shelvin Mack	Utah Jazz	8.0	PG	26.0	6-3	203.0	Butler	
Raul Neto	Utah Jazz	25.0	PG	24.0	6-1	179.0	NaN	
Tibor Pleiss	Utah Jazz	21.0	C	26.0	7-3	256.0	NaN	
Jeff Withey	Utah Jazz	24.0	C	26.0	7-0	231.0	Kansas	
NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	

	Salary
Name	
Shelvin Mack	2433333.0
Raul Neto	900000.0
Tibor Pleiss	2900000.0
Jeff Withey	947276.0
NaN	NaN

```
[22]: value = data.at["Avery Bradley", "Age"]
      print(value)
```

25.0

```
[23]: result = data.query("Age > 25 and College == 'Duke'")
      print(result)
```

	Team	Number	Position	Age	Height	\
Name						
Lance Thomas	New York Knicks	42.0	SF	28.0	6-8	
Elton Brand	Philadelphia 76ers	42.0	PF	37.0	6-9	
JJ Redick	Los Angeles Clippers	4.0	SG	31.0	6-4	
Mike Dunleavy	Chicago Bulls	34.0	SG	35.0	6-9	
Dahntay Jones	Cleveland Cavaliers	30.0	SG	35.0	6-6	
Miles Plumlee	Milwaukee Bucks	18.0	C	27.0	6-11	
Luol Deng	Miami Heat	9.0	SF	31.0	6-9	
Josh McRoberts	Miami Heat	4.0	PF	29.0	6-10	
Kyle Singler	Oklahoma City Thunder	5.0	SF	28.0	6-8	
Gerald Henderson	Portland Trail Blazers	9.0	SG	28.0	6-5	
Mason Plumlee	Portland Trail Blazers	24.0	C	26.0	6-11	

	Weight	College	Salary
Name			
Lance Thomas	235.0	Duke	1636842.0
Elton Brand	254.0	Duke	NaN
JJ Redick	190.0	Duke	7085000.0
Mike Dunleavy	230.0	Duke	4500000.0
Dahntay Jones	225.0	Duke	NaN
Miles Plumlee	249.0	Duke	2109294.0
Luol Deng	220.0	Duke	10151612.0
Josh McRoberts	240.0	Duke	5543725.0
Kyle Singler	228.0	Duke	4500000.0
Gerald Henderson	215.0	Duke	6000000.0
Mason Plumlee	235.0	Duke	1415520.0

```
[ ]:
```